

St. Kate's News

Intrigued by St. Catherine University's recent report on its unique science, technology, engineering and mathematics (STEM) partnership with elementary schools, Congresswoman Betty McCollum '87 (D-MN) visited St. Paul's Crossroads Elementary School recently to learn more about EcoSTARS.

EcoSTARS is a partnership of integrated environmental science learning between pre-kindergarten (PK)-12 grade schools and the University to increase student learning and enthusiasm for STEM subjects.

St. Kate's education faculty train elementary education majors and classroom teachers to conduct STEM investigations, create fieldwork experiences for elementary students and provide mentoring during lessons at partner schools.

Curriculum is drawn from GLOBE (Global Learning and Observations to Benefit the Environment; more on this below), Project Learning Tree (PLT) and Project WET (Water Education for Teachers).

The EcoSTARS program allows St. Kate's elementary education majors to gain valuable classroom experience before their student-teaching assignment - while in-service teachers learn to become more accomplished STEM educators.

"Our goal is to help teachers and our elementary majors become more confident and competent STEM educators who really know the subjects and can engage students in the real-world relevance of science," said Tony Murphy, executive director of the National Center for STEM Elementary Education at St. Catherine University.

Two classroom visits

Congresswoman McCollum was greeted by Principal Celeste Carty and MaryAnn Janosik, Ph.D., dean of the school of Professional Studies and the Graduate College at St. Catherine University.

She was briefed on the St. Kate's-Crossroads partnership prior to visiting classrooms at the

elementary school by Carty and Murphy as well as St. Kate's Associate Dean of Education Lori Maxfield and Director of Undergraduate and Graduate Initial Licensure Susan Goetz.

The group first visited teacher Leigh Hansen's classroom of 4th-, 5th- and 6th-grade Montessori students. St. Kate's student Laura Seidel was teaching the class about water cycles.

In a second classroom, St. Kate's student Stacey Vold was leading teacher Kristin Pengra's room of fifth graders in a lesson on soils.

"I am really excited about this joint partnership between St. Catherine University's National Center for STEM programs and Crossroads Elementary School," said McCollum. "STEM educators will be trained to more effectively teach science, technology, engineering and math to grade school students, so they can be competitive in the 21st-century global economy."

EcoSTARS: successful and growing

St. Catherine University began the first EcoSTARS partnership in fall 2006 with the Prior Lake-Savage Area School District., thanks to the generous support of the Jeffers Foundation, HP Fuller, Inc., and the Xcel Energy Foundation.

This successful partnership created the momentum to move the EcoSTARS model in fall 2008 into other schools, including Northrop Urban Environmental School in Minneapolis and, now, Crossroads Elementary.

"We feel we have something unique at St. Kate's with both the EcoSTARS program and our work in STEM for elementary education majors," said Goetz. "EcoSTARS has continued to evolve as we learn more about team teaching at the higher education level, the value of authentic field experiences for our students, and support from partnership schools."

For their initial licensure, elementary education majors at St. Kate's are now required to complete a STEM certificate-three of five courses in the University's unique STEM minor.

The EcoSTARS program works in tandem with St. Kate's National Center for STEM Elementary Education to improve elementary teacher effectiveness, advance student performance and strengthen society's literacy in STEM.

Read more about EcoSTARS in SCAN February 2010, "The Science of Education."

More about GLOBE

GLOBE (Global Learning and Observations to Benefit the Environment) provides teachers and students with opportunities to learn by taking scientifically valid measurements while conducting investigations in the areas of atmosphere, hydrology, soil, land cover/biology, earth as a system, and creating maps with global positioning systems (GPS).

Additional aspects of GLOBE include reporting local data through the Internet, publishing research projects based on GLOBE data and protocols, creating maps and graphs on the free interactive website to analyze data sets, and collaborating with scientists and other GLOBE students around the world.

Over 100 countries are involved in GLOBE, which engages K-12 students worldwide as they do real science, collect data and share it via a website. St. Catherine students are first introduced to the GLOBE curriculum as part of their STEM certificate coursework. They gain hands-on practice using it with children during EcoSTARS, and they often serve as a mentor to the classroom teacher who may be using GLOBE protocols for the first time.

The initiative is funded by the National Aeronautics and Space Administration (NASA), the National Oceanic and Atmospheric Administration (NOAA), the National Science Foundation (NSF) and supported by the U.S. Department of State.